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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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LSI LOGIC CORPORATION  
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EXAMINER
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ARNOLD, ADAM

ART UNIT	PAPER NUMBER
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2697

DATE MAILED: 10/06/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/739,956

Applicant(s)

PETHER ET AL.

Examiner

Adam Arnold

Art Unit

2697

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-11 and 13-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-11 and 13-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

The examiner acknowledges the receipt and entry of the applicant's amendment.

1. In view of the Appeal Brief filed on August 18, 2003, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 20 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy, U.S. Patent No. 6,348,919. Referring to claim 1, Murphy discloses an apparatus for generating a region of graphics on a display (col. 1, line 13), the apparatus comprising: a bus serving a range of addresses (Figure 5C); a plurality of registers (col. 13, line 28) within an address range (col. 14, line 21) configured to store an x coordinate and a y coordinate of a pixel to be drawn (col. 14, lines 8-9); a calculation circuit configured to calculate an address for storage of data corresponding to the pixel in dependence on the x and y coordinates (col. 27, lines 1-14); and a control circuit configured to control writing of said data in memory at said address (see Figure 5D and col. 62, line 7). Murphy does not explicitly disclose a bus having a first address range and a second address range. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a bus with a first address range and a second address range. One of ordinary skill in the art would have been motivated to do this because buses server as conduits for data exchange within a computer system. Moreover, a memory address is inherently broken up into different ranges. That is, each individual address or a group of addresses server as a separate range from another address or group of addresses.

Referring to claim 3, Murphy discloses the apparatus of claim 1, further comprising a clipping circuit which serves to determine which coordinates fall outside of a particular threshold (col. 13, lines 39-41).

Referring to claim 4, Murphy does not explicitly disclose inhibiting writing of data to the address in response to the clipping circuit. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to inhibit writing of data to the address in response to the clipping circuit. One of ordinary skill in the art would have been motivated to do

this because the purpose of a clipping circuit is to determine when pixel values are outside of a range, usually the viewing area. As such the values are extraneous and it is inherent that no further processing will be carried out on them.

Referring to claim 5, the remarks presented above with respect to claim 4 apply equally to this claim.

Referring to claim 6, the remarks presented above with respect to claim 4 apply equally to this claim.

Referring to claim 7, Murphy teaches a 1<sup>st</sup> register mapped to a 1<sup>st</sup> and 2<sup>nd</sup> location in memory and a 2<sup>nd</sup> register mapped to a 3<sup>rd</sup> and 4<sup>th</sup> location in memory (col. 13, lines 13-18 and 26-28, where each register is 32 bits, or 4 bytes, and each byte is a different location).

Referring to claim 20, Murphy discloses a system for generating a region of graphics on a display as described fully in claim 1 above. The remarks directed to claim 1 above, apply equally to claim 20. The apparatus of Murphy performing the steps is recited in the claim.

Referring to claim 21, the remarks presented above with respect to claim 4 apply equally to this claim.

Referring to claim 22, the remarks presented above with respect to claim 7 apply equally to this claim.

Referring to claim 30, the remarks presented above with respect to claim 1 apply equally to this claim.

4. Claims 8-10 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy in view of Chiu, U.S. Patent No. 5,796,391. Referring to claim 8, Murphy discloses the graphics apparatus of claim 7. See 103 rejection above. Murphy does not teach an "address

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decoder” for monitoring the memory locations. Murphy does disclose monitoring the register’s mapped addresses and subsequently writing the value and address tag to a FIFO buffer. Chiu teaches an address decoder attached to a control unit. See col. 3, line 45 and Figure 2, nos. 122 and 206. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have an address decoder for monitoring memory locations. One of ordinary skill in the art would have been motivated to do this because, as pointed by the applicant, the sole purpose of the address decoder is to “monitor each of the four address locations N to N+3 to see which is written to and apply an address location signal to the write control unit 36” (page 8, lines 3-5 of Applicant’s Amendment). Although Murphy doesn’t use the Chiu terminology, the functionality is the same as the applicant’s.

Referring to claim 9, the remarks presented above with respect to claims 1 and 8 apply equally to this claim.

Referring to claim 10, the remarks presented above with respect to claims 1 and 8 apply equally to this claim.

Referring to claim 23, the remarks presented above with respect to claims 8 and 22 apply equally to this claim.

Referring to claim 24, the remarks presented above with respect to claims 8 and 22 apply equally to this claim.

5. Claims 11, 13, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy in view of Prouty, U.S. Patent No. 5,986,658. Murphy does not teach a style table for storing data corresponding to a predetermined style for the pixel, or a style counter for indexing the data in the style table. Prouty teaches a line style array for storing line style pattern features

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and a line style feature pixel counter. See Figure 2, elements 211 and 217. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a style table for storing data corresponding to a predetermined style for the pixel and a style counter for indexing the data in the style table. One of ordinary skill in the art would have been motivated to do this to provide for drawing complex line styles in real time. See Prouty, col. 1, lines 4-9. Further, both references are directed to the generation and use of raster computer graphics (see col. 9, lines 67 of Murphy and lines 1-2 of the Prouty abstract). Thus, Prouty simply provides details of the generation of a specific type of graphic, the type being more generally described and used by Murphy.

Referring to claim 13, Murphy does not teach a style table configured to store a non-repeating bit pattern up to a predetermined length. Prouty teaches an array large enough to handle line style pattern features. See Prouty, col. 7, line 29. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a style table configured to store a non-repeating bit pattern up to a predetermined length. One of ordinary skill in the art would have been motivated to do this to provide for different size bit patterns.

Referring to claim 14, the remarks presented above with respect to claims 8 and 11 apply equally to this claim.

Referring to claim 25, the remarks presented above with respect to claims 11 and 20 apply equally to this claim.

Referring to claim 26, Murphy does not disclose selecting a color for the pixel to be drawn dependent on the style data signal. Prouty discloses that in a preferred embodiment of their invention, the style array records color information for the line. See col. 5, line 19. At the

time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a style table record color information for the pixel. One of ordinary skill in the art would have been motivated to do this to record accurate information regarding the graphics display as well as the reasons above.

6. Claim 15-19 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy in view of Ozcelik, Patent Publication No. 2002/0149626. Referring to claim 15, Murphy does not teach outputting a word address corresponding to the address location in memory and a bit address representing a position of the pixel data within a word. Ozcelik teaches outputting a word address corresponding to the address location in memory and a bit address representing a position of the pixel data within a word. See paragraph 47. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to output a word address corresponding to the address location in memory and a bit address representing a position of the pixel data within a word. One of ordinary skill in the art would have been motivated to do this to increase flexibility in defining displays. See Ozcelik, paragraph 8. Further, Ozcelik provides the details of addressing memory for storage/retrieval of data such as done in Murphy.

Referring to claim 16, Murphy in view of Ozcelik discloses the graphics apparatus described in claim 15. See 103 rejection above. Murphy further discloses a second register for storing pixel data (col. 16, lines 15-16) and a multiplexer for writing data to memory (see Figure 2B).

Referring to claim 17, Murphy in view of Ozcelik discloses the graphics apparatus described in claim 16. See 103 rejection above. Murphy does not explicitly disclose that the



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multiplexer combines data for two or more pixels. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a multiplexer that combines data for two or more pixels. One of ordinary skill in the art would have been motivated to do this because the purpose of a multiplexer is to combine signals for transmission over a medium.

Referring to claim 18, Murphy in view of Ozcelik discloses the graphics apparatus described in claim 17. See 103 rejection above. Murphy discloses a comparator for comparing depth and color values (col. 75, line 57). Murphy does not disclose comparing addresses of pixels to be drawn. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to compare addresses of pixels. One of ordinary skill in the art would have been motivated to do this because comparison operations are frequently used in graphics processing to preserve physical memory.

Referring to claim 19, the remarks directed to claims 1 and 18, above, apply equally to this claim.

Referring to claim 27, the remarks directed to claims 17 and 20, above, apply equally to this claim.

Referring to claim 28, the remarks directed to claims 15 and 20, above, apply equally to this claim.

Referring to claim 29, the remarks directed to claims 18 and 20, above, apply equally to this claim.

***Response to Arguments***

7. Applicant's arguments, see page 24, line 12, filed February 3, 2003, with respect to the objections to claims 12-14 have been fully considered and are persuasive. The objections to claims 12-14 have been withdrawn.

8. Applicant's arguments filed February 3, 2003 have been fully considered but they are not persuasive. Referring to the rejection to claims 1, 3, 20 and new claim 30, the applicant states the amendments have obviated the previous rejection in that Lee does not disclose or suggest every element as arranged in the claims. The examiner has substituted for Lee another reference, Murphy, which more completely discloses every element as arranged in the claims (see remarks above with respect to claims 1, 3, 20 and 30 above) and the claims are hereby rejected.

In response to applicant's argument (on the top of page 32) that the examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

In response to applicant's argument that there is no suggestion to combine the references (for claims 4-11, 13-19 and 21-29), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988 and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there is sufficient motivation found in the references and in knowledge available to one of ordinary skill in the art to combine the

references and the examiner believes the motivations presented in the first action to be sufficient. However, in response to applicant's remarks additional reasoning has been supplied in the above rejections. The rejections to these claims stand.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Adam Arnold** whose telephone number is **703-305-8413**. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached at (703) 305-9798.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).



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